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IV. *Some Observations concerning Insects made by Mr John Banister in Virginia, A. D. 1680. with Remarks on them by Mr James Petiver, Apothecary and Fellow of the Royal Society.*

**V***Espe* *Ichneumones*. Here are divers kinds, long and slender waisted all, these make their Nests of Dirt, and are therefore called *Dirt Wasps*. Some of them make their Nests contiguous to one another, each adjoyning Cavity having in it 2 or more partitions: Others build them in clamps one upon another; they fix them against a Wall or Ceiling of an house, or any where where dry. There is not above 2 *Wasps* belonging to one of these *Vespary's*, for when they have made one Cell, and put into it 6 or 8 live *Spiders*, they close it up to work upon another, leaving them to brood upon their young, something like that of *Aristotle* in his *Hist. Animal. Lib. 1. cap. 20.*

The young ones of these are cased over with a thin transparent horny skin of an Amber colour; those of the *other* are contained in a brown case, with a certain number of regular protuberances at one end thereof, *some* again lye in brown ones that are *smooth*, and *some* (if I mistake not) *naked*. I have not had leisure this year to inquire so far into their *generation, production, &c.* as I would, *vid. Mart. Lister Hist. Animal, cap. 5. libr. de Araneis* in genere.

We have several other coloured *Wasps*.

Two *black* and *white*, that build their *Nests* on the small branches of *Trees*: Of the lesser kind of *Nest*, there is a very good *Figure and Description* in *Piso* his *Nat. Hist. of Brasile lib. 5. cap. 12. p. 287.* only as it seems to stand *erect*, it should have been made *pendulous*: This is of an oval form,

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and

and about the bigness of a *Goose Egg*. The other is much larger and more round ; the Wasps also are somewhat bigger. A *Third* sort I found in shape and colour like our common *English Wasp*, whose little Nest was half round (like the *Bell* of a *Clock*) fixt under the covert of a rotten Logg. These *Nests* in colour resemble brown paper, only the last tends to a *Brimstone* colour. Here are others brown with purple wings, and some with streaks of yellow under their bellies. These make their Combs of the same matter the former do, but naked without any cover, and therefore commonly choose the shelter of a house, &c. tho I have seen them sticking in a *Bush* : Here are also some *Philamot* ones with purple wings, and other large ones *black* and *yellow*, with a Mouth like a *Breeze* or *Stout*, and one *Red* and *Black* without wings, whose sting is very long. *This last is a very singular Wasp, and the only one I have as yet seen without Wings, it was first given me by Mr James Marshall, who had it from Virginia, since which I have received it from Carolina, amongst several other curious Insects, my kind Friend Mr Edmund Bohun was pleased to send me from thence. I also remember to have seen it amongst those our very ingenious Friend, Dr David Krieg, Fellow of this Society, made whilst in Maryland. I think it may not improperly be called Vespa Virginiana impennis, ex nigro rubroq; mixta.*

*Bombylus Terebo.* These Bees eat into Timber, and there make their Nests. This was in the *Joyce* of a *House* so firm and sound, that it was very hard entring with a *Peircer*, the hole was but just big enough for the *Bee*, to creep in at, and went right up, about 2 inches in the Wood, and then in a transverse line at least half a foot on each side, which seem'd to me (as I probed it with a knitting Needle) to be twice as wide as the entrance, how many Bees belonged to it I cannot tell, there was in, and I heard one or two about the door.

*Monffet.*

*Mouffet* at the latter end of his 6th *Chapter de Propoli*, p. 36 says, there are 4 sorts of *Hyve-drofs*. 1. 'A Populo nigra tantum colligitur, quam *Ægyrinam* vocant, colore flavo aut fulvo, tractatu mollis est & *Visci* instar se-quax, odorem habet suavem, jucundum capiti gratum, somniferum, *styracis* æmulum, sapore *Populneis* gemmis respondet. The young Buds of common *Black Poplar* I know do yield some such glutinous matter, of which is made the *Unguentum Populeon* of the *shopps*. But there is a Tree in the lower parts of this Country called the *Balsam Tree*, whose *Leaves* both in smell and shape resemble those of *Black Poplar*. The People there call it *Balsam*, and make use of it for *Green Wounds*, &c. I believe it may be worth enquiry, whether the *Hyve-drofs* there differs from that in other parts of the Country, where this Tree does not grow, or whether what the Bees in *England* extract from the *Black Poplar* be as good, or whether this *Balm* be not better to make up *Salves*, as it comes from the Tree, or for any other use this *Propolis* is so much commended.

*Oelstrum*. Forte *Afilus Virginiensis* Pennei.

4.

*Musca* carnivora *Vivipera*. A small brown Fly, that extrudes live *Maggots*.

5.

*Cicada* & earum exuvix, *Mouff*. 130. Those insects that destroyed the Trees in *New England* were *Cicadae*. *Phil. Transf.* No. 8. p. 137.

6.

I this day (*viz.* May, 20. 1701.) received from the Reverend Mr Hugh Jones in Maryland, amongst other Insects, &c. a very large *Cicada*, which exactly agrees with the 2 uppermost bigger ones, Figured in *Mouffet*, pag. 130. towards the right hand, but I cannot with Mr Banister think, it were these Insects that destroyed the Trees, because they have no *Forcipes* or other Grinders to eat the Leaves, but only a Tube, through which they suck in Dew, which is all the Nourishment that I can understand they live on, and most Writers confirm the same. *Mouffet* cap. 17. p. 127. lin. 3.

Rore Vitam sustentans satis Arboribusq; non nocens. *Virgil* also says, *Pascuntur dum rore Cicadæ*, to which also *Theocritus* the Greek Poet alludes *μη πρόκας σιτίζετι ὥσπερ τέττιξ* *Doth he live on Dew like a Cicada or Dew-fly ? for so I chuse rather to render it, and not a Grasshopper, as most Authors do, which is the next, viz.*

7. Locustæ. Grass-hoppers. Barrard in *Exod.* 667. 8.

*I have from these parts a very rare kind, whose wings are wholly green, and without any spots or veiny retticulations, as the common great one always has, for which reason I thus distinguish it. Locusta Americana major, alis viridibus opacis. This or one very like it, I remember to have seen amongst those Insects Dr Sloan brought from Jamaica.*

8. Mantis. 'Tis neither of the Tree that *Mouffet* describes p. 118. Nor are those 2 Figures in his appendix like it. That of *Piso* most resembles it, *lib.* 5. cap. 21. p. 317 but his of an Insect becomes a Vegetable, which I dare not aver of mine.

9. Blatte. These Cockroaches are one of the Plagues of this Country. They are Oviparous strange and large, that had I not seen one half extruded, I should not have believed them theirs. The *Peruvians* call these *Araners*, *Mouffet* p. 139. But I rather think he meant the *Brasilians*, and that his *Serius* should be *Lerius*, who wrote a Voyage to *Brasil* in French A. D. 1594. where p. 159. he calls them *Arauners* and not *Araners*. *Clusius* also in his *Exoticks* p. 306. in his notes on *Mouardes* takes notice of the same.

10. Blatta Volans. These are very rare, I have seen but this one here.

11. Cimices. Wall-tice. These are another of our Plagues, for where there is not great care taken to destroy them, they are as numerous in our Beds, as the former are in our Kitchens.

12. Cicindela mas. The Fire-fly.

*Cicindela Mariana vaginis teneris fuscis marginibus fulvis*  
*Act. Phil.* 246. p. 397. 16. This

This is not that great *Virginian* kind, whose head shines, nor is it that smaller one, which *Piso* says the *Brazilians* call *Memoa*, nor the common kind, tho much of that shape and size. This emits its light at 2 Crescents, but the whole tail of ours shines, which it contracts and dilates at its pleasure. Its sheath wings are of a dark purple edged with yellow, and so is its head or helmet.

This is exactly described, and the same with those of Carolina and Maryland, from both which places I have received several of them. Yet amongst those from Carolina, which my ingenious Friend Mr Edmund Bohun sent me, I find a variety, whose sheaths were wholly blackish, but the Helmet edged with yellow : This I call *Cicindela Caroliniana vaginis omninò nigricantibus*.

13.

*Cicindela Fæmina*. The Glow-worm. Is armed Bark and Head in Joynt Armour of a deep *Murray* colour fastened to the *Thorax* ; The Tail made of 9 shelly rings, in the last of which are visible the 2 shining points. Its Head is black, so small one cannot without the help of a Glass, perfectly discern the contexture of it. Its Eyes (if it have any) like those of a *Snail*, stand on the tops of 2 horns. It has 6 legs.

14.

*Scarabeus Πλατυκερος* mas seu minor, *Moffet* 149.

15.

*Scarabeus niger* ore cornuto seu forcipato, capite & scapulis colore succino elytris lute is eleganter notatis.

16.

*Scarabeus* ore cornuto, Elytris purpureis, scapulis nigris cuti more cavis. This is found among rotten Wood, Loggs, and when he is caught, makes a small squeeking noise.

17.

*Scarabeus Nasicornis* ore cornuto.

18.

*Scarabeus Melolonthes Nasicornis*.

19.

*Scarabeus Magnus nostratus* ex nigro eleganter albo depictus. Found on a rotten Log, 60 miles above the habitable parts of James's River.

20.

*Scarabeus Βουξιος* cornibus obtusis.

21.

*Scarabæus Αργυροστος*.

22.

This

This is the Holy Beetle in the *Tab. Hieroglyphica* mentioned by the Learned Mr Gregory in his *Preface*. Here are multitudes of them in the Summer time. I have often inspected their rowling Pellets, yet could not find any alteration in the mass of matter thro their motion, till at length I met with one of these then deserted balls, in the center whereof lay a small white grub, which possibly might owe its life to the motion. I since found in one of these Balls 2 very little young Beetles, differing in nothing but magnitude from the old.

24. Scarabeus *Stercorarius* alter, ore forcipato.

25. Scarabeus *Stercorarius* Capite, Scapulis & Elytris quasi sculptura excavatis. An Cantharus *Carolinianus* obscure cuprosus, vaginis inæqualibus nobis.

26. Scarabeus *Stercorarius* Noctu tantum volans.

27. Scarabeus *Melolonthes*. This and that other *Dung-Beetle* you find amongst the *Nass-cornes* are not described, but may I think be very aptly rankt with those of this kind.

28. Scarabeus *luteo-viridis*. They are found amongst *James-Town Weed*, i. e. *Stramonium*.

29. Scarabeus *minor viridi-cæruleus*. These lye among the *Flowers* of the *Apocynum*.

30. Scarabeus colore viridi auro radiante & luteis maculis eleganter notatus. An Cantharis *Anglica* viridis, maculis aureis insignitis, *Act Phil.* No 246. p. 397. 17. I know not but these 3 last may be *Cantharides*.

31. Here is also a smaller kind, all Black.

32. Scarabeus colore griseo, scapulis binis quasi oculis nigris mollitie pubescentibus notatus. It is found among rotten Wood, and is called a *Snapper*, from the noise it makes by thrusting part of its Neck into its Breast, and springing it back again : It something resembles the *Cicindela Virginienfis* of *Moufet*, but its Head shines not.

I have made the same Observation as Mr Banister has of the springing faculty of this elegant Beetle, and also fully de-

described it ( in the Philosophical Transactions No. 246. p. 396. No. 13. ) by the name of *Scarabeus elasticus major Americanus*, capite bimaculato, to which I refer the Reader.

*Scarabeus arboreus pilosus.*

33.

*Scarabeus arboreus minor glaber.*

34.

These two kinds they say the *Indians* eat.

The following Beetles I have also received from those parts. Besides these I have mentioned from Maryland in the Philosophical Transactions, N. 246. p. 395, &c.

*Buprestis Mariana viridis, vaginis sulcatis & punctatis.* I am very much obliged to the Reverend Mr Hugh Jones in Maryland, from whom I just now received this elegant Beetle, with the great Cicada above-mentioned, as also some Birds, Fish, Fossils and Plants, all very curiously preserved.

35.

*Cantharis Carolinianus niger, undis pallescentibus.*

36.

*Cantharus Marianus viridis perelegans, vaginis sulcatis signaturis flavescens ornatis, Gazophylacij Naturæ nostræ.* Tab. 2. Fig. 2.

37.

*Cantharus Marianus minor, vaginis ex nigro flavoq; striatis.*

38.

*Capricornulus Carolinianus vaginis ex nigro luteoque mixtus.* This differs from No. 20. in the *At.* Phil. 246. p. 397. in having its shoulders black, and only edged with yellow, and its sheath wings equally mixt, whereas that from Maryland has most black in its sheaths, and a yellow ring round the midst of its scapula.

39.

*Crio-ceros Marianus Castanei coloris, antennis tortilibus membranaceis.* This resembles the 2d Figure in *Mouffet* P. 153.

40.

*Crio-ceros Marianus Castanei coloris, antennis tenuioribus geniculatis.* This is slenderer than the last, both in Body and Horns especially, otherwise very like. I believe they are Male and Female.

41.

*Curculio Carolinianus ruber, maculis nigris.*

42.

*Melolonthes Marianus maximus, maculatus.*

43.

*Mel-*



44. *Melolonthes Marianus viridis, marginibus flavis.*  
 45. *Nasicornis Tauroceros Marianus splendens Castanei coloris.*  
 46. *Scarabeus Carolinianus, oblongus, niger, forcipatus, vagina striatis.*  
 47. *Scarabeus Carolinianus subrotundus niger levis.*  
 48. *Scarabeus Marianus Pediculosi nostro simile.* The fulcra or furrows on the Vaginae in this are larger, otherwise very like No. 9. in our *Museum.* p. 4.  
 49. *Scarabeolus Carolinianus nigro flavoq; mixtus.*  
 50. *Testudinulus Carolinianus flavus margine transparente.*  
 These two last and the rest from *Carolina*, I received some time since, from my hearty and worthy Friend Mr *Edmund Bohun*, who hath given me advise of many others he hath now sent me from thence, with several curious *Plants, Seeds, &c.*  
 51. *Phalena magna cinerea cruribus spinulis armatis.* The Horn worm Fly, so called from a horn'd *Eruca*, or Caterpillar, that feeds on green *Tobacco*, and towards the fall creeps into the ground, and becomes an *Aurelia* of a reddish brown colour, in which the proboscis of our Moth has its involucre, &c.  
 52. *Tinea Scorpiuncularis libros depescens.* *Mouffet* tells us in 2 several places of such an Insect, which he has described in his *Chapter of Scorpions*, p. 172. Whether that of ours be that he means, I cannot define, till I find the description he talks of. It has 8 Legs besides its Claws, and creeps very fast, both backward, forward and sideways, and is found in old musty Books.  
*Phalangium Imperati* 681 desc. and 692 Fig. *Mouffet* has in his appendix given 2 figures of this Spider, in that that shews its fore parts, you have the site and position of the 4 greater eyes, but the 4 smaller ones, that lye in a straight line under them, discernable also to the naked eye he has omitted to express.  
 54. *Phalangium alterum oculis quatuor majoribus in segmento arcu circuli, sursum curvanti totidemq; minoribus simili more subtus in fronte dispositis.* V. A